



# **Mississippi Department of Marine Resources**

---

## **COMPREHENSIVE RESOURCE MANAGEMENT PLAN (CRMP)**

The logo for the Comprehensive Resource Management Plan (CRMP) features the letters "CRMP" in a bold, white, italicized sans-serif font, set against a solid blue rectangular background.

***Comprehensive  
Resource  
Management Plan***



# Mississippi Gulf Coast Stormwater Management Toolbox

**Eco-Systems, Inc.**  
*Consultants, Engineers and Scientists*



**NEEL-SCHAFER**  
**ENGINEERS • PLANNERS**

This product was made possible by funds granted to the Mississippi Department of Marine Resources' CRMP from the Mississippi Coastal Impact Assistance Program, administered by the Mississippi Department of Environmental Quality





**CRMP**

***Comprehensive Resource  
Management Plan***



# **Stormwater Runoff and the Coast**

**Eco-Systems, Inc.**

*Consultants, Engineers and Scientists*

**NEEL-SCHAFFER**

**ENGINEERS PLANNERS**

# How did we get here?

- **CRMP**
- **CIAP Funding**
- **Stormwater Management Toolbox**

# What is the CRMP?

- CRMP - non-regulatory organization composed of over 300 individual stakeholders, and over 70 local, state, federal, and private sector are represented.
- CRMP - coordinates partnerships and collaboration amongst stakeholders.
- CRMP - promotes the use of smart growth concepts, storm water runoff management practices, and GIS planning tools to its members via grants and technical assistance.
- CRMP - hosts annual “Coastal Development Strategies Conference” for the region.
- CRMP - housed at the Mississippi Department of Marine Resources, Biloxi, MS.

# What is the Mission of CRMP?

**“To develop a plan to sustain  
Mississippi’s coastal resources  
and to provide for a healthy  
economy in the coastal area.”**

Overall objective is to build the capacity of state and local governments to manage and protect coastal wetlands and marine resources in Mississippi.

Regional approach (6 lower counties)

# What is the Toolbox?

- Compilation of information necessary for understanding stormwater runoff management, requirements, resources, and best management practice options.
- Assists designated coastal cities and counties in meeting the US Environmental Protection Agency's Stormwater Phase II Program requirements for 14 jurisdictions on the Mississippi Gulf Coast.
- Designed to be a tool to be employed to better manage stormwater runoff in the future.
- First document was the *Interim Deliverable* , 8/16/03

(Counties and cities had to file management plan with DEQ, 3/10/03 )



# Process – Work Plan

- **Established Stormwater Task Force within CRMP**
- **Researched Available Information**
  - EPA, MDMR, MDEQ, Natural Resources Conservation Service, Natural Resources Defense Council, Office of Watershed Protection. Stormwater Magazine, StormCon materials, ASCE materials, workshop materials. ADEM materials MSU and case examples from other coastal states throughout the nation.
- **Identified Local Issues**
  - Developed attitude survey. Via results identified local issues and concerns and desired management efforts. Identified local contacts and created stormwater runoff directory.
- **Held Workshops**
  - Task Force meetings, CRMP meeting, Conferences to provide latest stormwater management runoff information, to receive feedback from “users” and stormwater runoff managers and to discuss next steps.
- **Identified Coast Specific Best Management Practices**
  - Identified pros and cons associated with practices, costs and effectiveness, provided local photographs and case examples where possible and created the *Stormwater Runoff Management Toolbox Interim Deliverable* in August 2002.



# Elements of Toolbox Interim Deliverable

- Executive Summary
- Overview of USEPA Stormwater Phase II Program
- Identification of Issues
- Directory of Affected Entities, CRMP Stakeholders, and Natural Resources Agencies
- Discussion of Minimum Measures
- BMP Profile Pages
- Model Ordinances
- Program Examples
- Resource Guides

# Deliverable #1

# Toolbox Interim Deliverable

For County and City Governments of  
Coastal Mississippi

Department of



Marine Resources



## Mississippi Gulf Coast Stormwater Management Toolbox

INTERIM DELIVERABLE - AUGUST, 2002

**Eco-Systems, Inc.**  
Consultants, Engineers and Scientists



**Neel-Schaffer, Inc.**  
Engineers • Planners

# Best Management Practices

Six minimum control measures:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post Construction Stormwater Management In New Development and Redevelopment
6. Pollution Prevention and Good Housekeeping for Municipal Operations.

# Example of BMP from Toolbox

## Public Education and Outreach

- MDEQ Water Conservation Brochure
- MMA Water Wheel
- NRCS Backyard Conservation Program

### Water Conservation for Homeowners

**Benefits:**

- Can significantly reduce the burden on water storage, purification, distribution, and treatment facilities.

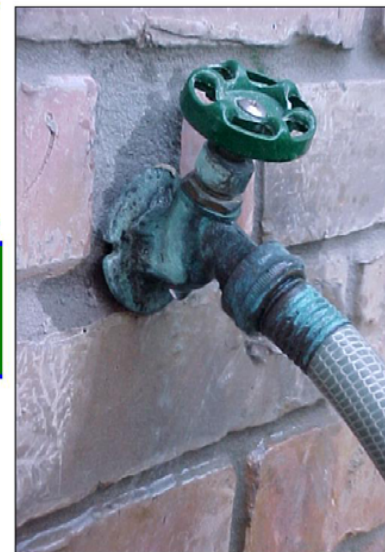
**Limitations:**

- Public habits may be reluctant to change due to perceived inconvenience.

**Costs:**

- Costs are inexpensive when compared to money saved on water bills.

See Appendix B for Program Examples



**Discussion:**

Water Conservation Programs for homeowners should address water supply issues and educate citizens on simple water conservation methods. A successful program can significantly reduce the burden on water storage, purification, distribution, and treatment facilities. The general public may be reluctant to change their current actions due to perceived inconvenience; however, education programs can be tailored to provide citizens with information on the benefits (ex: cost savings) of water conservation and methods of implementing conservation practices.



# **Deliverable #2**

## **Developed a BMP Ranking Report**

- **Specific to coastal Mississippi BMP's**
- **Four Categories**
  1. Effective pollutant reduction
  2. Costs
  3. Maintenance
  4. Community approval

Scores were designated according to research findings and Professional judgment of a team of engineers and scientists.

**Covered the six minimum measures BMP's used in the *Toolbox***

# Deliverable #3

## Created a Vendor Notebook

- CRMP called StormCon 2002 exhibitors and requested information regarding costs and effectiveness studies for stormwater runoff management products.
- CRMP compiled a vendor notebook which represented examples of stormwater vendors and products, type of treatment, costs, effectiveness studies, brochures.

# **Deliverable #4**

## **GIS Stormwater Data Layers**

CRMP provided the coastal cities and counties GIS stormwater data layers to assist and enhance current local maps.

# **Deliverable #5**

## **Implementation Tools**

- Checklists and inspection forms – illicit discharges
- Checklists and reporting forms – erosion control practices
- Inspection forms – good housekeeping practices
- Generic model stormwater ordinance
- Annual reporting template to MDEQ



# Final Deliverable – 10/16/03

- **Two Volume Set – developed beyond Interim Deliverable:**

Best Management Practices for USEPA's six minimum measures  
Implementation Assistance Tools (ordinances, template reports, GIS)  
Pollution prevention for marinas, vendor products, examples for BMP's,  
contacts for educational materials, native species list, correspondence  
MDEQ General Permit Guidelines, etc.
- **The intent of the toolbox:**

Provide information to local decision-makers to assist with  
stormwater runoff management and provide long-term benefits to the  
coastal community.
- **The toolbox is:**

Far more reaching than that of an application. To be used as a resource  
document and tool by city and county engineers, PW directors,  
contractors, developers, road maintenance crews, city and county  
planners, etc. in every day decisions.
- **The toolbox demonstrates:**

Successful public education efforts, partnerships, and  
citizen participation.

# Testimonies

- Mississippi Coastal City
- Mississippi Air National Guard
- Mississippi DOT

# Toolbox Developed and Distributed

## MISSISSIPPI GULF COAST STORMWATER MANAGEMENT TOOLBOX VOLUME I

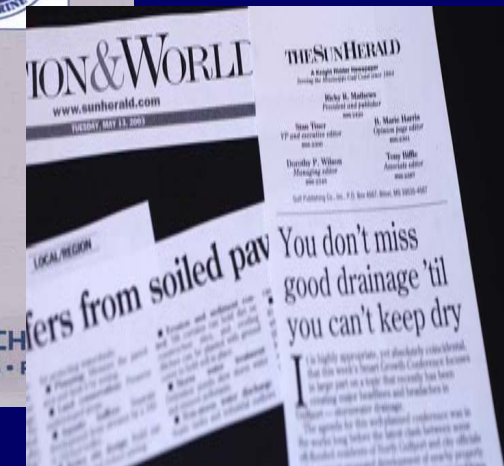


### The Mississippi Department Of Marine Resources

Managing Your Marine Resources Today for a Sound Tomorrow

# CRMP

**Comprehensive  
Resource  
Management Plan**



# *Toolbox* is available on line

[www.dmr.state.ms.us](http://www.dmr.state.ms.us)

Click on CRMP - Click on Stormwater

---

Tina Shumate, Bureau Director  
Marcia Garcia, Staff Officer and Toolbox Project Manager  
Comprehensive Resource Management Bureau  
Comprehensive Resource Management Plan

Mississippi Department of Marine Resources  
1141 Bayview Avenue, Suite 101  
Biloxi, Mississippi 39530  
Phone: 228/374-5000  
Fax: 228/374-5008

e-mail: [tina.shumate@dmr.state.ms.us](mailto:tina.shumate@dmr.state.ms.us)

e-mail: [marcia.garcia@dmr.state.ms.us](mailto:marcia.garcia@dmr.state.ms.us)